

What is claimed is:

1           1. A timing device comprising a carrier having at least one code track of a group  
2           and, overlapping therewith, at least one code marking, which is scanned by a sensor unit to  
3           produce signals, wherein the at least one code track has a different optical density compared to  
4           the first group, and wherein the code markings within a code track overlap.

1           2. The timing device according to claim 1, wherein the first group and additional  
2           groups of code markings are scanned by the same sensor-emitter-unit.

1           3. The timing device according to claim 2, wherein the code markings of the first  
2           group overlap with those of the additional groups within the code track.

1           4. The timing device according to claim 3, wherein the sensor unit comprises a  
2           light source and a light sensitive sensing device

1           5. The timing device according to claim 4, wherein in the sensor unit a two-  
2           channel evaluation of the optical signals is performed.

1           6. The timing device according to one of the preceding claims, wherein the first  
2 group of code markings has a predetermined optical density and the additional groups of code  
3 markings have optical densities different from that of the first group, with the code markings  
4 having a detectable grading for generating control or position signals.

1           7. The timing device according to claim 6, wherein the groups of code markings  
2 have a predefined difference in their optical density.

1           8. The timing device according to claim 7, wherein the optical density corresponds  
2 to different gray levels which can span a range between light-blocking and almost complete  
3 transparency.

1           9. The timing device according to claim 8, wherein the carrier of the timing device  
2 is made of a reflecting material and the code markings have a different degree of reflectivity.

1           10. The timing device according to claims 9, wherein the code markings of the first  
2 group have a mutually constant spacing from one another, whereas the code markings of a second  
3 and subsequent group are distributed over the code track with an arbitrary spacing and are  
4 forming segments on the timing disk or the timing ruler for controlling different functions.

1 11. The timing device according to claim 10, wherein the code markings of the  
2 second and subsequent group are used for controlling one of a start and an end position, for one  
3 of calibration purposes and for absolute positioning.

1 12. A positioning device, comprising a timing device with a carrier having a first  
2 group of code markings in at least one code track, with the code markings being scanned by at  
3 least one sensor unit for producing a signal, and comprising a signal processing device, the  
4 signal processing device converts the sensor signal into a control signal and is connected after the  
5 sensor unit.

1 13. The timing device according to claim 4, wherein the light source is a LED.

1 14. The timing device according to claim 4, wherein the light sensitive sensing  
2 device is at least one photo transistor.

1 15. The timing device according to claim 5, wherein in the sensor unit performs  
2 a multi-channel evaluation of the optical signals is performed.